

PILOT INFORMATION FILE (PIF)

PIF Item: #03-09

Subject: Winter & Cold Weather Flying

Date: 19 Dec 2003

Note: Winter need not be a season in which we pack up our headsets into the storage closet and wait for spring before we fly again. Instead of thinking of winter's downside, consider the opportunities --- By planning to fly, we'll learn more about winter weather relating to aviation, and will increase our go/no-go decision making skills. In our preparations, we'll be more mindful of winter's affect on man and machine alike, and conduct our preflights accordingly. By flying, we learn more about safely managing an aircraft on a less than perfectly-dry taxiway or runway, about proper engine management in a cold environment, or, if we have to change our plans due to weather, we'll increase our in-flight judgment/decision making skills. And, finally, perhaps the best lesson we'll learn is that winter flying can produce some of the most memorable flights you'll ever take!

Runway (Surface) Condition Reports (RCRs): Airport surfaces (ramps, taxiways, runways) with wet, snowy, slushy, and/or icy conditions decrease surface friction co-efficiency, which in turn affects our directional control and braking abilities. When appropriate, these conditions are reported as D-NOTAMs obtained via FSS, available via ATCT ATIS broadcasts, and can be relayed as "pilot reports" (PIREPs). The RCRs (also known as "braking action reports") qualify the surface as "good", "fair", "poor", or "nil"; and will state the source for the report (type of aircraft or by vehicle), time report was generated, airport surface referenced, and the surface condition.

Example: "...Runway 15 braking action report poor by landing Beech 1900 @ 1445L..."

Please ensure you include these reports in your preflight preparation actions.

Note: Griffiss Aero Club SOPs prohibit aircraft runway operations when the runway condition as reported by ATCT (via radio or ATIS) is listed as "**poor.**" If your intended runway or airport lists only "poor" conditions, elect to land on a different runway or fly to a suitable alternate field.

Cold Weather Equipment/Clothing: All Aero Club pilots are expected to wear or carry appropriate cold weather clothing for the intended flight, giving particular attention to head, hand, and foot protection. When we are cold or uncomfortable, it is difficult to concentrate on demanding, challenging, or sometimes, even routine tasks. Food for thought...ask yourself how you would perform if cold/uncomfortable in the following situations:

- *Snow covered ramp:* Are you paying attention to aircraft taxiing on the ramp, or concerned about slipping? (Maybe you need footwear for the situation.)
- *Cold/Windy Ramp:* Are you so concerned with getting in the airplane that you neglect to remove the chocks, forget to sump the fuel tanks, or, in hurrying onto the aircraft, slip on the foot pedestal? (Dress for the appropriate ramp conditions.)
- *Cruise Flight:* Sure we have heaters in all our aircraft, but what happens if we have to shut one down due to a suspected carbon monoxide leak and the OAT gauge reads -20°? How quick will our inactive extremities start to chill? Will that jacket that you put in the backseat or baggage compartment do you any good now? If cold, our bodies will naturally divert energy in an effort to stay warm and comfortable, and we will focus on attempting to stay warm. The mental energy need to focus on flight duties may suffer....

Ground/Ramp Safety: As most of you know, maneuvering an aircraft in and out of a hangar when the ramp area is just a little snow covered can be a most challenging endeavor. Take it slow and easy, the more people to help, the better. Don't risk slipping...an aircraft has many unfriendly parts. If no one is at the club to help you, don't hesitate to get assistance from the FBO ---

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Winter Conditions Currency - When is the last time you flew in the winter? Have you ever taken off or landed on a wet, snowy, slushy, or icy runway? Have you ever experienced a winter cross-country flight when the entire landscape was snowbound, hiding some of those great summer time enroute checkpoints?

If your answers are “never” or a “longtime ago” – then consider taking flight with an experienced club pilot who has, or call one of the club instructors for a “winter checkout.”

Want To Learn More? - A couple of nice cold weather/winter references for review.....

- FAA Accident Prevention Program Pamphlet: FAA-P-8740-24, “Tips On Winter Flying”
<http://www.cyberair.com/tower/faa/app/p8740-24/p8740-24.html>
- FAA Advisory Circular: AC 91-13C, “Cold Weather Operation of Aircraft”
[http://www.airweb.faa.gov/Regulatory_and_Guidance_Library/rgAdvisoryCircular.nsf/1ab39b4ed563b08985256a35006d56af/0a6bf63c8fb95285862569d900744829/\\$FILE/ac91-13c.pdf](http://www.airweb.faa.gov/Regulatory_and_Guidance_Library/rgAdvisoryCircular.nsf/1ab39b4ed563b08985256a35006d56af/0a6bf63c8fb95285862569d900744829/$FILE/ac91-13c.pdf)
- “Winter Tips For Takeoffs and Landings”, *Flight Training*, Jan 1997 - see attached article, or,
<http://www.aopa.org/members/ftmag/article.cfm?article=1198>
- “Snow and Ice Covered Airports” - a 20min video made by Sporty’s, available at the club.
- Tips On Safety Procedures for Cold Weather Flying (see attached)

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TIPS ON SAFETY PROCEDURES FOR COLD-WEATHER FLYING

Always wear or carry clothing adequate for the area you are flying over. This could mean the difference between survival or death from exposure, in the event of emergency. Also, the properly dressed pilot will not hurry the preflight inspection or planning.

Special preflight attention should be given in winter conditions to the following items:

- Baffling, winter covers and oil-cooler covers, properly installed as recommended by the manufacturer.
- Check to see that the crankcase breather on reciprocating engines is free of ice. Is there an auxiliary vent?
- Check the cabin heater system thoroughly for cracks and loose connections. Carbon monoxide is odorless, but deadly!
- Keep batteries fully charged to prevent freezing.
- Drain fuel tank sumps and filters prior to each flight.
- Remove ALL frost, ice and snow from airfoil and control surfaces prior to flight. Be wary of changing conditions that might melt ice and then refreeze, particularly in hinges or balanced control surfaces.
- If you must preheat before starting, use only heaters in good operating condition, with a fire extinguisher handy. Never leave the aircraft unattended while preheating.

Keep a fire extinguisher close at hand during extreme cold weather starts. Be alert for fire when starting an overprimed engine.

Keep windshields and windows free of frost and fog. PREHEAT BEFORE TAKEOFF!

During taxi, avoid mud, water and slush, as it can be thrown into wheels or collect inside wheel fairings and freeze after takeoff, causing the wheels to lock.

Remember that WEATHER CONDITIONS CAN CHANGE VERY RAPIDLY during winter months. Severe weather is often unpredictable.

Be alert for gusty winds during taxi, takeoff and landing. Do not exceed pilot or aircraft limitations.

During letdown avoid prolonged power-off approaches, as the engine will cool rapidly and may not respond if high power is needed.

Check on destination weather throughout your flight- blowing snow can be a landing hazard, as can snow banks and ridges, which are difficult to see. Use soft-field techniques when landing in snow of any amount, and use brakes with great caution.

To avoid the possibility of moisture condensing in fuel tanks, fill tanks immediately after landing.

Remember that YOU, the pilot, have complete responsibility for the GO – NO GO decision, based on the best information available. Exercise good judgment.